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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,189	11/17/2003	Robert L. Horn	A7995.0012/P0012	9560

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EXAMINER

SCHLIE, PAUL W

ART UNIT	PAPER NUMBER
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2186

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/713,189	Applicant(s) HORN, ROBERT L.	
	Examiner Paul W. Schlie	Art Unit 2186	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-45 have been examined as amended.

Response to Arguments

2. Applicant's arguments filed 2/15/06 have been fully considered but they are not persuasive, and/or moot based upon correspondingly amended maintained rejections.

As per the rejection of claims 1-45 per U.S.C. 112 first paragraph, as the applicant has acknowledged the generation of real-time statistics in storage systems is not novel unto itself, and that such systems may not continuously collect some statistics certain instances in real-time due to processing overhead vs. realized benefits, and fails to disclose any means by which this overhead may be reduced beyond that known or obvious to one of ordinary skill in the art to enable the generation of real-time statistical data such that this acknowledged potential impediment may be overcome, or a novel use of such data (as amended claims 1, and 27 citing the use of such data to display a real-time non-descript histogram [being generically understood as a conventional means to visually represent statistical data classified into some finite number of groups over some interval, presumably utilizing some correspondingly non-descript means of displaying the same] is correspondingly considered an obvious means to utilize such data by those of ordinary skill in the art, as doing so has no disclosed benefit beyond that presumed to be obvious itself); the claims remain rejected, with the rejection being correspondingly amended to reflect the above explanation.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1-45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

More specifically, the applicant acknowledges as prior art the generation of statistical data critical to the performance tuning and/or servicing of a multi-storage element storage system, further clearly acknowledging it would be obviously desirable to collect and/or utilize such data in real-time without incurring a significant performance degradation, although claimed to be a limiting factor in prior art, and which the claimed invention satisfies; however the applicant's specification fails to disclose an identifiable means by which the claimed invention is uniquely capable of generating the said desirable statistical data more efficiency than may be obviously be achieved in prior art, and/or its novel use beyond the arguably obvious use to potentially display a generic histogram of such data as is known may be done for any statistical data set; so is it assumed that some critical aspect of the invention must then be lacking in the disclosure (as the assertion of a concept, absents of a means and/or novel utility, is not considered enabling).

The application is reminded that no new matter may be introduced into the disclosure. Corrective action is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lam et al. (6,405,282) further in view of Ottesen et al. (5,729,397).

As per claims 1 and 27, Lam teaches a storage system comprising a plurality of storage devices, a cache, a memory, and a storage controller coupled to said plurality of storage devices, wherein said storage devices are coupled to said storage controller through a storage device interface; and means/method for processing host commands wherein a host command for reading or writing to said storage devices may also dynamically record and/or calculate statistics associated with said commands within an arbitrary interval of time for potential immediate and/or subsequent interactive use (see figures 1-2A-B, abstract lines 5-8, column 3, lines 37-42), but does not explicitly teach that the recorded statistics may be stored in said memory (although strongly implied, inherent, and obvious). Ottesen teaches that they may be stored in memory (column 2 lines 17-22). Further, official notice is given that the display of real-time statistical data in the form of an otherwise non-descript generic histogram is considered obvious to one of ordinary skill in the art at the time of the claimed invention, and thereby considered an obvious design choice. It would be obvious to one of ordinary skill in the art to combine that taught or known relevant to the claims, for the benefit of maintaining the storage of

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dynamically accumulated real-time statistics local to the storage system to enable their efficient respective storage, subsequent access/use, and/or display in the form of a histogram.

As per claims 2-26, and 28-45, being dependant on claims 1 or 27 respectively, Lam et al. further teaches the calculation of sequential/random read/write seek/transfer times and/or cache hit-miss ratios within an arbitrary interval which may occur in situ, where all corresponding necessary steps not explicitly cited are implied as being inherent and obvious. (see column 10 lines 29-40 and 65, and column 13-14 lines 56-11). It would obvious to one of ordinary skill in the art to perform these method steps with the context of such a system, for the benefit of enabling the calculation of the corresponding statistical data as may be necessary for any corresponding requirement.

Any limitation not otherwise explicitly addressed is correspondingly considered clearly inherent in that taught, obvious to one of ordinary skill in the art at the time of the disclosed invention, and/or not sufficient to patentably distinguish over prior art.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul W. Schlie whose telephone number is 571-272-6765. or whose email address is [paul.schlie@uspto.gov]. The examiner can normally be reached on Mon-Thu 8:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim can be reached on 517-272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



PIERRE BATAILLE
PRIMARY EXAMINER

3/1/06